

## Supporting Information

### **Plant Photocatalysts: Photoinduced Oxidation and Reduction Abilities of Plant Leaf Ashes under Solar Light**

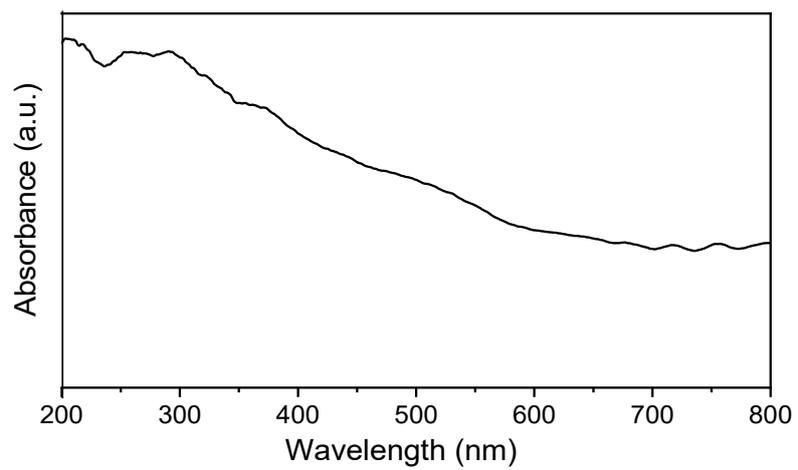
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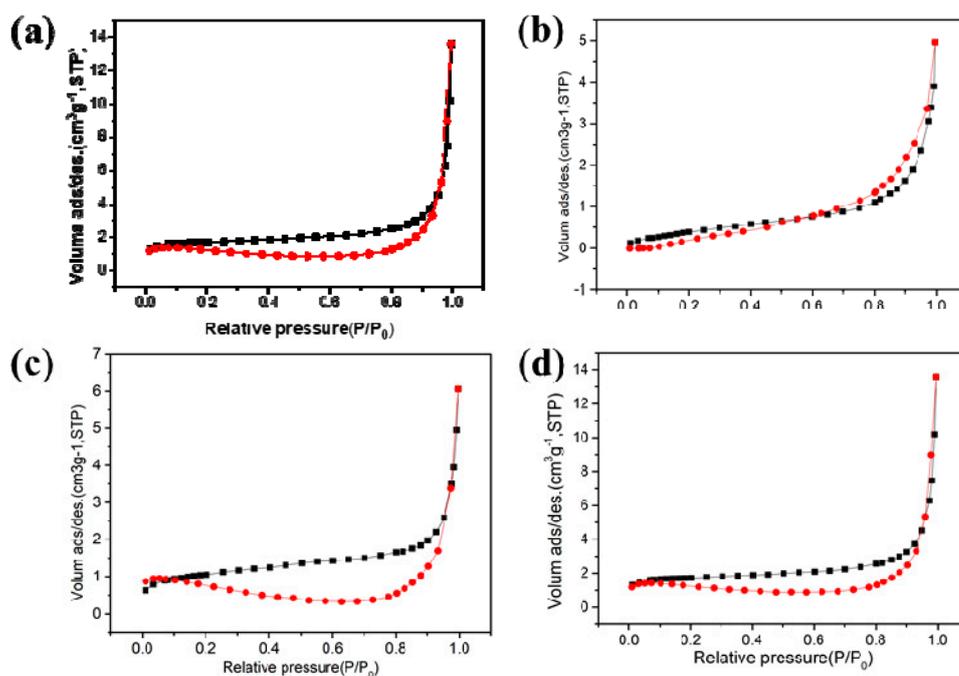
**Figure S1.** UV-vis diffuse reflectance spectra of couchgrass ash.

**Table S1** Comparison of the main elements content of the garlic sprouts (stem) determined by XRF and XPS.

Name	The main element content (mass %)							
	K	Cl	O	Ca	C	Mg	Si	B
XRF-garlic sprouts (stem)	27.64	22.70	28.06	6.77	6.24	1.85	0.23	2.11
XPS-garlic sprouts (stem)	2.34	0.61	54.05	10.93	22.86	5.78	4.36	2.27

**Table S2** Summary of textural properties of three plant ashes.

Samples	$S_{BET}(m^2g^{-1})$	Pore volume( $cm^3g^{-1}$ )	Pore size(nm)
garlic sprouts (leaf)	5.82	0.0097	41.52
Chinese leek (leaf)	3.62	0.0048	36.08
garlic sprouts (stem)	3.69	0.0054	34.61
Chinese leek (stem)	1.51	0.0024	20.69



**Figure S2** N<sub>2</sub> adsorption/desorption isotherm distribution of garlic sprouts (leaf) ash(a), Chinese leek (leaf)(b), garlic sprouts (root) ash(c) and Chinese leek (stem)(d).